

Correction to video

Timer = 5:12:

"...show a return of 15% to 25% per annum." should be "...show a return of 19% to 21% per annum."

This is because we have a 5% margin of error. That's 5% of 20% which is 1%. Thus, it is plus or minus 1%. [Appendix A]

Additional notes

Necessary sample size for backtesting vs live trading

For the formula to determine the necessary sample size:

$$((Z\text{-score})^2 * p * (1-p) / (\text{margin or error})^2$$

If we are deciding how many trades we need in a backtest, we use $p=0.5$ so as to maximise the necessary sample size to play it safe (since we don't know the actual returns of the strategy). Any number other than 0.5 will reduce the sample size.

If we have done the backtest and your backtest states that your hit-rate (number of winning trades, not return) is $X\%$, I still recommend using $p=0.5$ to get a higher required number of live trades.

However, it is still acceptable to change your p to X , especially if X is at the extremes (around $<20\%$ or $>80\%$). This is related to the concept or "Min sample and hit-rate are positively correlated" (timer = 8:48).

[Appendix A] Margin of error applied to hit-rate:

Note that the margin of error concept applies better for estimating hit-rate (i.e. number of winning trades) rather than returns. But we loosely use it for returns.

This is because returns can be misleading. You can have extremely low hit-rate but each winning trade profits a lot.

E.g. You can have a 1% hit-rate (which supposedly sucks), but for every winning trade you make 500%.

In the scenario of 384 trades, a 1% hit-rate leads to about 4 expected winning trades. Any margin of error which changes this number to 3 or 5 etc will severely skew the overall returns.

Thus, a 5% margin of error to the hit-rate does not necessarily equate to 5% margin of error to returns.

Don't worry too much about the detailed math

All these might seem complicated. But don't worry too much about it. Just understand that you need significant number of trades to make sure that your backtest or live trading results is not skewed by luck (too much).